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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,038	03/06/2001	Daniel R. Tretter	10003732-1	4573

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

BRINICH, STEPHEN M

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,038

Applicant(s)

TRETTER, DANIEL R.

Examiner

Stephen M Brinich

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 14-20 is/are allowed.
- 6) ☐ Claim(s) 1,6-8,10 and 12 is/are rejected.
- 7) ☐ Claim(s) 2-5,9,11,13 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/6/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8, 10, & 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang et al.

Re claims 1, 10, & 12, Huang et al discloses (column 4, lines 12-54) a method for detecting and removing background pixels in which a distance metric (column 4, lines 12-25) is computed on the basis of neighborhood pixels and a background parameter T_p . Based on this distance metric, the probability that a pixel is a background pixel is determined. Pixels determined to be background pixels (i.e. having a sufficiently high probability of being background) may then be modified (i.e. removed) (column 5, line 12).

Re claim 8, the image of Huang et al is two-dimensional and scanned in pixel lines (Figure 4). The application of the Huang et al method to all pixels of the two-dimensional image thus inherently includes the scanning of all pixel lines.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al..

Re claims 6-7, Huang et al does not specify the type of color space in which the image pixels are described. The use of a known image processing method in a standard color space (luminance-chrominance, CIE Lab, YcrCb) would have the advantage of avoiding the need to define a color space *ab initio*. The use of such a standard color space in Huang et al would be an expedient obvious to one of ordinary skill in the art.

Allowable Subject Matter

5. Claims 2-5, 9, 11, & 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 14-20 are allowed.

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7. The following is a statement of reasons for the indication of allowable subject matter:

Re claim 2, the art of record does not teach or suggest the claimed background parameter updating arrangement in conjunction with probabilistic background detection.

Re claim 3, the art of record does not teach or suggest the claimed local activity calculation based on a pixel luminance component in conjunction with probabilistic background detection.

Re claim 4 (and dependent claim 9), the art of record does not teach or suggest the claimed computation of the sum of a square of a normalized Euclidean distance and an expression including an activity metric in conjunction with probabilistic background detection.

Re claim 11, the art of record does not teach or suggest the claimed adjustment of a pixel by an amount based on the probability that it is a background pixel in conjunction with probabilistic background detection.

Re claim 13, the art of record does not teach or suggest the claimed selective nonadjustment of pixels that are part of a halftone region in conjunction with probabilistic background detection.

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Re claim 14 (and dependent claims 15-17), the art of record does not teach or suggest the claimed defining and adjustment of a parallelepiped in a luminance-chrominance color space.

Re claims 18 (and dependent claims 19-20), the art of record does not teach or suggest the claimed dynamic threshold adjustment scheme.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zhang et al and Brill et al disclose further examples of probabilistic tests for background pixels.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Brinich at 703-305-4390. The examiner can normally be reached on weekdays 7:00-4:30, alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2600 Customer Service center at 703-306-0377.


If attempts to contact the examiner and the Customer Service Center are unsuccessful, supervisor David Moore can be contacted at 703-308-7452.

Faxes pertaining to this application should be directed to the Tech Center 2600 official fax number, which is 703-872-9306.

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Hand-carried or courier-delivered correspondence pertaining
to this application should be directed to

US Patent and Trademark Office
220 South 20th Street
Crystal Plaza Two, Lobby, Room 1B03
Arlington VA 22202


Stephen M Brinich
Examiner
Art Unit 2624

smb
November 12, 2004